ABSTRACT

Performing Boolean operations among two regions; regions and results represented as vector tuples. Establish indexing cells about regions and classify by type of interaction between regions, e.g., (boundary, boundary). For each (boundary, boundary) cell, define pseudo-points at each boundary entrance/exit. Categorize each (boundary, boundary) cell on relationship of its pseudo-points. Identify starting points along boundaries based on: categorization, operation, and interior convention. Accumulate results cycling from a starting point, along region boundary. Upon encountering each intersection, proceed along the other region boundary. Upon encountering a cell edge, proceed along the cell edge in the direction consistent with the interior convention. Where a starting point or intersection between region boundaries remains untraversed, accumulate results in tracing a similar cycle along untraced boundaries. Discard duplicate/cell-edge only tuples. After traversing all starting points/intersections of boundaries, determine results for other cell types, and concatenate with those for (boundary, boundary) cells.